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EXAMINER				
GHULAMALI, QUTBUDDIN				
ART UNIT		PAPER NUMBER		
2611				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com

Office Action Summary

Application No.

09/777,203

Applicant(s)

SCHMIDL ET AL.

Examiner

QUTBUDDIN GHULAMALI

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 10-22 and 33-51 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 16-22 is/are allowed.
- 7) ☒ Claim(s) 10-15 and 33-51 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)

- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date: 9/12/11
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

Paper No(s)/Mail Date: ____

DETAILED ACTION

1. The office action is in response to appeal brief request filed 6/02/2011.

Response to Appeal Brief

2. Applicant's request for reconsideration of the finality of the rejection of the last Office Action is persuasive and, therefore, the finality of that action is withdrawn.

In view of the Appeal Brief filed on 6/02/2011, PROSECUTION IS HEREBY REOPENED.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) File a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) Initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Priority

3. The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filed application, Application No. 60/210,851, filed June 9, 2000, fails to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application. For example limitation such as CRC or ACK recited in the instant case is absent from the prior filed application. Applicant is advised to check all prior filed applications for claim to priority.

Response to Remarks/Amendment

4. Applicant's remarks, section 7A, page 6 dated 6/2/2011, with reference to the rejection of claims 42-51, Mantha fails to disclose the recited limitation, "encoding data by a first method to establish communication with a remote receiver; encoding data by a second method to communicate with the remote receiver after communication is established;...". Applicant further remarks, page 6, that the Type I and Type-II methods of Mantha et al. are independent methods. There is no teaching or suggestion that they might be used together as required by claims 42 and 46.

Examiner's response: Examiner reviewed applicant's remarks in light of the claimed limitations but failed to find any reference to "that they might be combined together as required by claims 42 and 46". Claim requires encoding data by a first method and encoding data by a second method to communicate with the remote receiver.

As recited in claim 42, Mantha discloses in a prior art system referred to as a Type-II HARQ scheme wherein encoding that consists of information bits (original bits, col. 1, lines 63-65) and CRC bits data to establish communication as a first method to establish communication with a remote receiver (that is to establish communication with a remote receiver) (col. 2, lines 44-46);

encoding data by a second (the second method entails inclusion of parity bits that is transmitted after the communication with a remote receiver occurs) (method to communicate with the remote receiver after communication is established) (col. 2, lines 46-47);

applying an encoding algorithm that produces parity bits to a plurality of original data bits that are to be transmitted (col. 2, lines 46-47);

transmitting the original data bits with the CRC bits to the remote receiver without the parity bits in a first transmission (an initial operation shows information (data) bits and CRC bits transmission (col. 2, lines 45-46);

the transmitter refrains that is no parity bits sent, until receiving an indication that the original data bits have not been correctly received (subsequent retransmission with parity bits as requested indicates receiver did not receive data correctly and hence the transmitter retransmits data along with the parity bits) (col. 2, lines 46-50).

The disclosure in Mantha therefore, reads on the limitation as claimed.

As to applicant's remarks, page 7, Mantha fail to disclose "establishing communication in a first mode with the transmitting end; switching to a second mode of communication with the transmitting end after communication is established", the examiner submits that,

as recited in claim 40, Mantha discloses in a prior art system referred to as a Type-II HARQ scheme wherein encoding that consists of information bits (original bits, col. 1, lines 63-65) and CRC bits to establish communication as a first mode with the transmitting end (that is to establish communication with a remote receiver) (col. 2, lines 44-46);

switching to a second mode, that is after the first communication is established (transmission of data and CRC) subsequent retransmission entailing parity bits (a second mode of communication) (col. 2, lines 46-47);

the receiving end receiving from the transmitting end a first transmission including data bits and CRC bits without the parity bits (col. 2, lines 45-46) produced at the transmitting end by operation of an encoding algorithm applied to the original data bits (implicitly implied) (col. 1, lines 63-65; col. 2, lines 44-46);

the receiving end determining whether the original data bits have been received correctly in response to the CRC bits and, responsive to a determination that the original data bits have not been received correctly, the receiving end transmitting to the transmitting end a request for transmission of the parity bits (it is obvious from the

retransmission request with transmitting side includes parity bits that the receiver has encountered incorrect reception and hence the transmitter retransmits with parity bits combined with previously received symbols) (col. 2, lines 47-50).

The disclosure in Mantha therefore, reads on the limitation as claimed.

As to applicant's remarks, section B, page 7, regarding claims 16-21, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn with reference to prior art to Hawkins.

Note: The examiner called the applicant on 9/15/11 and 9/16/11 with a proposal to amend the claims. However, on 9/19/11 the applicant conveyed to the examiner that although the proposal is of significant merits, the applicant declines at this time.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 33-39, 40-51, are rejected under 35 U.S.C. 102 (e) as being anticipated by Mantha et al (USP 7,000,174).

Regarding claim 40, Mantha discloses in a prior art system referred to as a Type-II HARQ scheme wherein encoding that consists of information bits (original bits, col. 1, lines 63-65) and CRC bits to establish communication as a first mode with the transmitting end (that is to establish communication with a remote receiver) (col. 2, lines 44-46);

switching to a second mode, that is after the first communication is established (transmission of data and CRC) transmitter turns or switches to subsequent retransmission entailing parity bits (a second mode of communication) (col. 2, lines 46-47);

the receiving end receiving from the transmitting end a first transmission including data bits and CRC bits without the parity bits (col. 2, lines 45-46) produced at the transmitting end by operation of an encoding algorithm applied to the original data bits (implicitly implied) (col. 1, lines 63-65; col. 2, lines 44-46);

the receiving end determining whether the original data bits have been received correctly in response to the CRC bits and, responsive to a determination that the original data bits have not been received correctly, the receiving end transmitting to the transmitting end a request for transmission of the parity bits (it is obvious from the retransmission request with transmitting side includes parity bits that the receiver has encountered incorrect reception and hence the transmitter retransmits with parity bits combined with previously received symbols) (col. 2, lines 47-50).

Regarding claim 41, Mantha discloses a convolutional encoder (see figs. 2, 4). (Note, use and practice of convolutional encoding algorithm are commonly well known in the art).

Regarding claim 33, Mantha discloses a data communications method for transmission of signals from a transmitting end to a receiving end, comprising: establish communication as a first mode with the receiving end (that is to establish communication with a remote receiver) (col. 2, lines 44-46); switching to a second mode, that is after the first communication is established (transmission of data and CRC) subsequent retransmission entailing parity bits (a second mode of communication) (col. 2, lines 46-47); the transmitter end applying to a plurality of original data bits that are to be transmitted to the receiving end an encoding algorithm that produces CRC bits and parity bits (col. 2, lines 46-47; col. 4, lines 15-30); transmitting the original data bits with the CRC bits to the remote receiver without the parity bits in a first transmission (an initial operation shows information (data) bits and CRC bits transmission (col. 2, lines 45-46); the transmitter refrains that is no parity bits sent, until receiving an indication that the original data bits have not been correctly received (subsequent retransmission with parity bits as requested indicates receiver did not receive data correctly and hence the transmitter retransmits data along with the parity bits) (col. 2, lines 46-50).

Regarding claim 34, the claim is not further limiting claim 33, and having same or similar limitations as recited in claim 33, is likewise rejected.

Regarding claim 35, Mantha discloses substantially all limitations of the claim above. Mantha further discloses, receiving end combining a received version of the original data bits and a received version of the parity bits to produce a combined set of received bits and the receiving end applying to the combined set of received bits a decoding algorithm that corresponds to said encoding (col. 17, lines 56-67; col. 18, lines 1-11).

Regarding claim 36, the limitation recited is substantially similar to limitation recited with claims 48 and 51 as noted below is treated and rejected likewise.

Regarding claim 37, Mantha discloses decoder is a Viterbi decoder (col. 10, lines 3-64) (Note, as best understood by the examiner, Viterbi decoder for decoding is conventionally well known in the art).

Regarding claim 38, the limitation recited is substantially similar to limitation recited with claim 49 as noted below is treated and rejected likewise.

Regarding claims 42, 45 and 46, Mantha discloses a method of transmitting and receiving data comprising:
encoding data that consists of information bits (original bits, col. 1, lines 63-65) and CRC bits data to establish communication as a first method to establish communication with a remote receiver (that is to establish communication with a remote receiver) (col. 2, lines 44-46);
encoding data by a second (the second method entails inclusion of parity bits that is transmitted after the communication with a remote receiver occurs) (method to

communicate with the remote receiver after communication is established) (col. 2, lines 46-47);

applying an encoding algorithm that produces parity bits to a plurality of original data bits that are to be transmitted (col. 2, lines 46-47);

transmitting the original data bits with the CRC bits to the remote receiver without the parity bits in a first transmission (an initial operation shows information (data) bits and CRC bits transmission (col. 2, lines 45-46);

the transmitter refrains that is no parity bits sent, until receiving an indication that the original data bits have not been correctly received (subsequent retransmission with parity bits as requested indicates receiver did not receive data correctly and hence the transmitter retransmits data along with the parity bits) (col. 2, lines 46-50).

Regarding claim 43, the claim is not further limiting claim 42, and having same or similar limitations as recited in claim 42, is likewise rejected.

Regarding claim 44 Mantha discloses decoder is a Viterbi decoder (col. 10, lines 3-64) (Note, as best understood by the examiner, Viterbi decoder for decoding is conventionally well known in the art).

Regarding claim 47, Mantha discloses a convolutional encoder (see figs. 2, 4). (Note, use and practice of using convolutional encoding algorithm are commonly well known in the art).

Regarding claim 48, Mantha discloses all limitations of the claim above. Mantha further discloses, receiving and combining a received version of the original data bits and a received version of the parity bits to produce a combined set of received bits and

the receiving end applying to the combined set of received bits a decoding algorithm that corresponds to said encoding (col. 2, lines 29-40; col. 17, lines 56-67; col. 18, lines 1-11).

Regarding claims 49, 50, 51 Mantha discloses a decoder (fig. 6, element 64a, 64b) applying a CRC error detection procedure to the decoded data bit (as disclosed in the background of applicant's prior art (col. 2, lines 42-50); determining the decoded data bits are not the same as the original data bits in response applying a decoding algorithm that corresponds to encoding algorithm to the combined set of received bits to produce decoded data bits (col. 2, lines 48-57); and transmitting a request for retransmission of the original data bits in response to decoding of data bits (col. 2, lines 46-47).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mantha et al (USP 7,000,174) in view of Awater (USP 7,046,649).

Regarding claim 10, Mantha discloses a data communication apparatus (device) (col. 4, lines 15-19), comprising:

Mantha discloses in a prior art system establish communication as a first mode with another data communication apparatus (receiving end) encoding that consists of information bits (original bits, col. 1, lines 63-65) and CRC bits to establish communication as a first mode with the transmitting end (that is to establish communication with a remote receiver) (col. 2, lines 44-46);

and a second mode, that is the system after the first communication is established (transmission of data and CRC) subsequent retransmission occurs entailing parity bits (a second mode of communication) (col. 2, lines 46-47; col. 4, lines 56-62);

an input for receiving (receiver must have input to receive) original data bits that are to be transmitted via a communication channel (communication medium; col. 4, lines 49-56) to another data communication apparatus (remote device) (col. 4, lines 15-30, 38-56);

an encoder coupled to said input for applying to the original data bits an encoding algorithm (encoding technique) that produces parity bits (col. 3, lines 56-67; col. 4, lines 1-30);

an output for providing bits that are to be transmitted across the communication channel (col. 4, lines 26-30); and

a data path coupled between said encoder and said output, said data path receiving information from said another data communication apparatus (receiver), said data path selecting one of the original data bits with CRC bits and parity bits in response to a first information (initial information) (col. 16, lines 61-65), data path selecting the other of the original data bits with CRC bits and parity bits in response to a second information to be

provided to out for transmission across communication channel (communication medium) to another data communication apparatus (remote device or receiver) (col. 16, lines 61-65; col. 17, lines 11-55; col. 18, lines 25-53). Mantha does not expressly disclose a controller to switch communication from a first mode of communication to a second mode after communication is established. Awater, however, discloses establishing communication in a first mode with another data communication apparatus (transmitting end) and switching to a second mode with the other end after communication is established (with another data communication apparatus) (col. 6, lines 34-67; col. 7, lines 1-5). It would have been obvious to one of ordinary skill in the art at the time of invention was made to use the communication controller to establish communication in a first mode and switch to another a second mode as taught by Awater to switch communication in Mantha, because it can allow communication in either of two modes with minimized communication effort. One of ordinary skill in the art would be motivated to do so to provide communication with devices with minimum error in communication of information and conserve power.

Regarding claim 11, Mantha discloses data path includes a buffer coupled to said encoder for storing the original data bits and the parity bits (col. 4, lines 7-14).

Regarding claim 12, Mantha discloses data path includes a selector (controller) coupled between said buffer and said output, said selector responsive to said information for obtaining one of the original data bits with CRC bits and the parity bits from said buffer to be provided to said output for transmission to said another data communication apparatus (col. 4, lines 7-14).

Regarding claim 13, Mantha discloses a first information includes an acknowledgement (ACK) that the information received correctly a second information includes negative acknowledgement indicating that an earlier transmission has not been received correctly at said another communication apparatus, said data path responsive to the negative acknowledgement for changing its selection from one of the original data bits and the overhead bits to the other of the original data bits and the overhead bits (col. 15, lines 29-61)

Regarding claim 14, Mantha discloses a wireless communication apparatus (col. 29, lines 15-20).

Regarding claims 15, Mantha discloses a convolutional encoder (see figs. 2, 4). (Note, use and practice of using convolutional encoding algorithm are commonly well known in the art).

Allowable Subject Matter

9. Claims 16-22 allowed.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUTBUDDIN GHULAMALI whose telephone number is (571)272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QG.
September 12, 2011.

*/KHANH C TRAN/
Primary Examiner, Acting SPE, Art Unit 2611*